

### REMARKS

The disclosure is objected to because of the following informalities: the status information of the parent applications should be updated. By this amendment, Applicants have amended the disclosure to update the status information of the parent applications. The objection to the specification is overcome.

Applicants appreciate the Examiner's suggested order of arrangement of the specification, but will make no changes at this time since the suggested arrangement is only a recommendation and not mandatory.

Claims 6-8, 10 and 13 stand rejected under 35 U.S.C. 102(b) as being anticipated by Barnes et al. U.S. Patent No. 4,829,554. Applicants respectfully traverse the above rejection, as set forth below.

Since Claims 6-8, 10 and 13 have been rejected by the Examiner under 35 U.S.C. § 102(b), in order that the rejection of any claim in this appeal be sustainable, it is fundamental that "each and every element as set forth in the claim be found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also, Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), where this Court stated, "The identical invention must be shown in as complete detail as is contained in the ... claim".

Independent Claim 6 requires and positively recites, a **cellular radio**, comprising: "a first processor, said first processor being the main processor of the cellular radio", "a second processor coupled to said first processor, said second processor performing protocol processing" and "a third processor coupled to said first processor, said third processor performing signal processing on vectors".

New independent Claim 14 requires and positively recites, a **cellular radio**, comprising: **"a first processor for performing management and vocoder signal processing"**, **"a second processor coupled to said first processor, said second processor performing protocol processing"** and **"a third processor coupled to said first processor, said third processor performing signal processing on vectors"**.

New independent Claim 15 requires and positively recites, a **cellular radio**, comprising: **"a first processor for performing management and vocoder signal processing"**, **"a second processor coupled to said first processor, said second processor performing protocol processing"** and **"a third processor coupled to said first processor, said third processor being a dedicated processor of the array type"**.

In contrast, Barnes discloses a "cellular mobile telephone system" -- not just a cellular radio (abstract, line 1 and et seq.). The Examiner relies upon Barnes' Figures 5, 16 and 24, as each INDIVIDUALLY disclosing the elements of Claim 6. Applicants traverse this determination. Figure 5 is a functional block diagram of a redundant control of central station 20 (see Brief description of the drawings, col. 15, line 1 -- col. 16, line 64). Signal lines 24 couple wireline telephone system 22 to central station 20, and data line 28a and voice circuit 30A couple central control station 20 to cell station 26 (Fig. 1). No matter how you view central control station 20, it is NOT a "cellular radio", as required by Claims 6, 14 and 15.

Barnes' Figure 16 discloses one embodiment of one RIM of cell station 26. Being there are multiple RIMs in cell station 26, there is no way that microprocessor 550 (which is described as a "sub system") or slave microprocessor 558 (which is described as a "slave" to processor 550) are the **main processor** of cell station 26, as required by Claim 6. Further, since Barnes discloses that "the transmit audio processing circuit 578 and the receive audio processing circuit 576, under the control of the audio control and interface circuit 572 (col. 33, lines 42-49), it is obvious that neither microprocessor 550 or slave microprocessor 558

perform **"management and vocoder signal processing"**, as required by new Claims 14 and 15.

Barnes' Figure 24 discloses a functional block diagram of the handset and cradle of mobile unit 32. There are ONLY TWO microcomputers in Figure 24 – microcomputer 320 and microcomputer 350. Claims 6, 14 and 15 all require THREE processors – NOT two. Accordingly, Claims 6, 14 and 15 are not anticipated by Barnes' Figure 24.

In light of the above, the 35 U.S.C. 102(b) rejection of Claim 6 is overcome. New Claims 14 and 15 are also allowable over Barnes for the above reasons.

Claims 8, 10, 12 and 13 (and new Claims 16-21) stand allowable as depending from allowable claims and including further limitations not taught or suggested by the references of record.

Claims 6-11 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Paneth et al. U.S. Patent No. 6,282,180 B1, and further in view of Barnes et al., U.S. Patent No. 4,829,554. Applicants respectfully traverse this rejection, as set forth below.

Independent Claim 6 requires and positively recites, a cellular radio, comprising: "a first processor, said first processor being the main processor of the cellular radio", "a second processor coupled to said first processor, said second processor performing protocol processing" and "a third processor coupled to said first processor, said third processor performing signal processing on vectors".

New independent Claim 14 requires and positively recites, a cellular radio, comprising: "a first processor for performing management and vocoder signal processing", "a second processor coupled to said first processor, said second processor

**performing protocol processing” and “a third processor coupled to said first processor, said third processor performing signal processing on vectors”.**

New independent Claim 15 requires and positively recites, a cellular radio, comprising: **“a first processor for performing management and vocoder signal processing”, “a second processor coupled to said first processor, said second processor performing protocol processing” and “a third processor coupled to said first processor, said third processor being a dedicated processor of the array type”.**

In contrast, Paneth discloses a base station in Fig. 2 and a subscriber station in Fig. 3. While Paneth discloses that remote connection processor (RPU) 20 is a processor, it fails to teach or suggest that processor 20 is the **main processor** of the base station or of any cellular radio, as required by Claim 6. Even if it were to be so, the vocoder function is performed by the codecs in VCU 17 ell station 26 – NOT in RPU 20. Accordingly, Paneth’s Fig. 2 fails to teach or suggest wherein the first processor **performs management and vocoder signal processing** as required by Claims 14 and 15.

Paneth’s Fig. 3 discloses the subscriber station. Element 27 is a subscriber terminal. Element 28 is a voice codec unit. Element 29 is a channel control unit. The Examiner has not identified the specific processors within these elements. Applicants respectfully request the Examiner to specifically point out the respective processors and the functionality of the processors. Accordingly, Paneth’s Fig. 3 fails to teach or suggest, a cellular radio, comprising: **“a first processor, said first processor being the main processor of the cellular radio”, “a second processor coupled to said first processor, said second processor performing protocol processing” and “a third processor coupled to said first processor, said third processor performing signal processing on vectors”,** as required by Claim 6, or a cellular radio, comprising: **“a first processor for performing management and vocoder signal processing”, “a second processor coupled to said first processor, said second processor performing protocol processing” and “a third processor coupled to said first**

processor, **said third processor performing signal processing on vectors**", as required by Claim 14, or a cellular radio, comprising: **"a first processor for performing management and vocoder signal processing"**, **"a second processor coupled to said first processor, said second processor performing protocol processing"** and **"a third processor coupled to said first processor, said third processor being a dedicated processor of the array type"**, as required by Claim 15.

The Examiner has already admitted that Paneth does not show the use of cellular (Office Action dated December 20, 2001, page 5, lines 4-6). Applicants fail to see how the above deficiencies of Paneth can be overcome by Barnes. Even if Barnes does disclose a cellular radio system, the above deficiencies of Paneth are not overcome. Moreover, the Examiner has provided no evidence from the prior art that would motivate one of ordinary skill in the art to combine Barnes with Paneth and then re-engineer the resulting combination device, without the improper knowledge provided by Applicants' disclosure. Accordingly, the 35 U.S.C. 103(a) rejection of Claim 6 over Paneth in view of Barnes is overcome. New Claims 14 and 15 are allowable for the reasons provided above.

Claims 8, 10 and 13 (and new Claims 16-21) stand allowable as depending from allowable claims and including further limitations not taught or suggested by the references of record.

Claims 6-8, 10-11 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Claesson et al., A Multi-DS Implementation of a Broad-band Adaptive Beamformer for Use in a Hands-free Mobile radio Telephone, pages 194-200, 02/1991, and further in view of Barnes et al., U.S. Patent No. 4,829,554. Applicants respectfully traverse this rejection.

Independent Claim 6 requires and positively recites, a cellular radio, comprising: **"a first processor, said first processor being the main processor of the cellular radio"**, **"a second processor coupled to said first processor, said second processor performing**

**protocol processing" and "a third processor coupled to said first processor, said third processor performing signal processing on vectors".**

New independent Claim 14 requires and positively recites, a cellular radio, comprising: **"a first processor for performing management and vocoder signal processing", "a second processor coupled to said first processor, said second processor performing protocol processing" and "a third processor coupled to said first processor, said third processor performing signal processing on vectors".**

New independent Claim 15 requires and positively recites, a cellular radio, comprising: **"a first processor for performing management and vocoder signal processing", "a second processor coupled to said first processor, said second processor performing protocol processing" and "a third processor coupled to said first processor, said third processor being a dedicated processor of the array type".**

In contrast, Applicants' cellular radio, the Claesson reference discloses the DSP900 which is a multiprocessor computer aimed for digital signal processing (DSP) in laboratory environments (page 195, col. 1, lines 7 & 8) - NOT a "cellular radio". The DSP900 system is enclosed in a 19-in standard frame DIN 41612 and has space for up to 8 complete subcomputer cards, a global memory, a PC-interface and up to 20 I/O-units, see Fig. 2 (page 195, col. 1, lines 8-11). There is no evidence whatsoever in Claesson that the DSP900 system is a cellular radio or has cellular radio functionality. Accordingly, the DSP900 is a multiprocessor computer having no cellular radio functionality = NOT a cellular radio. While Applicants may agree that Claesson discloses a five-microphone Griffiths-Jim array that Claesson discloses as being "intended for use in a hands-free mobile radio telephone" (page 201, col. 1, lines 12-14), Claesson fails to disclose the five-microphone Griffiths-Jim array in a cellular radio. Claesson similarly fails to disclose any cellular phone - let alone a cellular phone with three processors. The Examiner even admits this with the statement that, "Claesson does not show the use of cellular" (Office Action dated December 20, 2001, page

7, line 2). There is no teaching whatsoever in Claesson itself, or in Barnes, that suggests to one having ordinary skill in the art at the time of Applicants invention, that Claesson could be modified to be a cellular radio.

Even if, arguendo, the argument can be made that it would be obvious to use Claesson as a "cellular radio", the resulting apparatus fails to teach or suggest, fails to teach or suggest, a cellular radio, comprising: **"a first processor, said first processor being the main processor of the cellular radio"**, **"a second processor coupled to said first processor, said second processor performing protocol processing"** and **"a third processor coupled to said first processor, said third processor performing signal processing on vectors"**, as required by Claim 6, or a cellular radio, comprising: **"a first processor for performing management and vocoder signal processing"**, **"a second processor coupled to said first processor, said second processor performing protocol processing"** and **"a third processor coupled to said first processor, said third processor performing signal processing on vectors"**, as required by Claim 14, or a cellular radio, comprising: **"a first processor for performing management and vocoder signal processing"**, **"a second processor coupled to said first processor, said second processor performing protocol processing"** and **"a third processor coupled to said first processor, said third processor being a dedicated processor of the array type"**, as required by Claim 15.

Applicants further submit that it would not have been obvious for one having ordinary skill in the art at the time of Applicants' invention to have re-engineered the DSP900 which is a multiprocessor computer aimed for digital signal processing (DSP) in laboratory environments (page 195, col. 1, lines 7 & 8) that is enclosed in a 19-in standard frame DIN 41612 and has space for up to 8 complete subcomputer cards, a global memory, a PC-interface and up to 20 I/O-units, see Fig. 2 (page 195, col. 1, lines 8-11), to instead be a **cellular radio**, even with the teaching of Barnes, without the improper hindsight provided by Appellants' disclosure. Accordingly, the 35 U.S.C. 103(a) rejection of Claim 6 as being

obvious over Claesson in view of Paneth, is overcome. New Claims 14 and 15 and similarly allowable for the reasons stated above.

Claims 8, 10 and 13 (and new Claims 16-21) stand allowable as depending from allowable claims and including further limitations not taught or suggested by the references of record.

Claims 6, 8, 10, 12-21 stand allowable stand allowable over the cited art and the application is in allowable form. Applicants respectfully request withdrawal of the rejections and allowance of the application.

Respectfully submitted,



Ronald O. Neerings  
Reg. No. 34,227  
Attorney for Applicants

TEXAS INSTRUMENTS INCORPORATED  
P.O. BOX 655474, M/S 3999  
Dallas, Texas 75265  
Phone: 972/917-5299  
Fax: 972/917-4418